

REMARKS

Initially, Applicants thank the Examiner for the courtesies extended during the interview of February 10, 2005, and for promptly providing an Interview Summary dated February 11, 2005. Applicants request that the Examiner carefully consider the foregoing amendments in light of the comments made during the interview and the remarks which follow.

Claims 1-115 are all the claims pending in the present application; Applicants thank the Examiner for rejoining the claims for examination on the merits responsive to Applicants' paper dated August 13, 2004.

Claims 1, 6, 16, 34, 45, 58, 63, 77, 94, and 102 have been amended to recite aspects of the disclosed embodiments with more particularity. Support for the foregoing amendments is found throughout the present application, and in particular in the discussion beginning at page 32, line 12, and continuing to page 33, line 27. No new matter has been added.

As indicated at page 11 of the Office Action, the Examiner has acknowledged that claims 75, 76, 81, 82, 92, and 93 are directed to allowable subject matter, though claims 75 and 82 are both indicated as having been rejected on the Office Action Summary. The status of claims 75 and 82 is therefore unclear, as is the status of claim 83 which depends from claim 81. Additionally, while claims 30-32 and 110-115 are indicated as having been rejected in the Office Action Summary, these claims are not addressed on the merits in the Office Action. Accordingly, the status of claims 30-32 and 110-115 is also unclear.

Claims 1, 3-9, 11-22, 24-28, 63-66, 70, 71, 73, 74, 77-80, 83, 87, 88, 90, 91, 94, 96-99, 101-105, 107, and 108 stand rejected under 35 U.S.C. § 102(b) as anticipated by United States Patent (USP) 5,800,777 to Jehan. Claims 34, 36-38, 40-43, 45-49, 51-55, and 57-62 stand rejected under 35 U.S.C. § 102(b) as anticipated by USP 5,125,240 to Knippscheer et al. Claims 2, 10, 29, 33, 69, 86, 95, 100, and 106 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Jehan in view of USP 5,516,487 to Rosenthal et al. Claims 23, 67, 68, 84, and 85 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Jehan in view of USP 6,127,928 to Issacman. Claims 35, 39, 44, 50, and 56 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Knippscheer. Claims 72, 89, and 109 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Jehan. Applicants respectfully traverse the prior art rejections, and request reconsideration and allowance of all the pending claims in light of the remarks set forth below.

Aspects of the present invention relate generally to a system and method of archiving and retrieving biological or non-biological samples maintained in desiccated form at a plurality of sample nodes on a carrier. Each “node” is a unitary structural element operative to maintain, carry, or otherwise to support a discrete sample as addressed, among other places, in the description of FIGS. 5A-5E beginning at page 31, line 24, and continuing to page 39, line 25, of the present application. In particular, each pending claim includes an element directed to a sample node comprising a sample support medium operative to carry a discrete sample in desiccated form.

The Interview Summary

Initially, Applicants address the Examiner’s characterization of a “node” as evidenced in the outstanding Office Action and as succinctly articulated in the Interview Summary. As discussed during the interview, the Examiner has attempted to read the term “node” as encompassing an “universal” sample (*e.g.*, element 42 in the Jehan patent; *see* paragraph 1 on page 2 of the outstanding Office Action). Applicants submit that a “node” as described in the present application and as recited in the pending claims can be read on neither such a universal sample, a well in a microwell plate, nor on any other such container, at least for the reasons provided below.

The pending application draws clear distinctions between a “node,” on the one hand, and a container, test tube, well in a microwell plate, or any other “sample,” on the other hand. As set forth in the discussion bridging pages 28 and 31 (with specific reference to FIGS. 4A-4C) of the specification, a “node” as recited in the pending claims is described as a discrete or unitary structural entity that is entirely distinct from any sort of container into which the “node” is, or may be, deposited. In that regard, a “node,” as a unitary structural entity, is still a node, irrespective of its location (whether deposited in a well of a microwell plate or not). Similarly, neither a container, a test tube, nor a well in a microwell plate is a “node,” irrespective of the nature of its contents at any particular moment in time, and a simple sample (such as that described in the Jehan and the Knippscheer patents, for instance) is not a “node,” at least for the following reasons.

In the paragraph bridging pages 32 and 33 of the present application, the specification explains that a sample “node” generally comprises “a sample support medium . . . [which] may be embodied in paper or cellulose, polystyrene, plastic, or other suitable support material constructed and operative to serve as a long-term storage mechanism for biological or other samples in a desiccated form.” As described and claimed in the present application, a “node”

is a material or structural entity, and not simply a sample, *per se*, nor a container into which such a structure may be deposited. Similarly, a “support medium” is a non-fluid structural element, and not simply a buffer or other reagent with which liquid sample material may be mixed.

As noted in the passage cited above, a “node” and its associated “support medium” are generally operative to serve as a long-term storage mechanism for “samples in a desiccated form,” which generally refers to a dry state as set forth, among other places, at page 44, line 12, of the specification. Such structural elements of a “node,” calling out a dry sample carried by a non-fluid support medium, are readily distinguishable from a container and a sample. Accordingly, Applicants respectfully disagree with the Examiner’s conclusion in the outstanding Office Action, and reiterate the position articulated during the interview that the prior art of record neither teaches nor suggests the nodes recited in the pending claims.

The Rejections Under 35 U.S.C. § 102(b)

As noted above, claims 1, 3-9, 11-22, 24-28, 63-66, 70, 71, 73, 74, 77-80, 83, 87, 88, 90, 91, 94, 96-99, 101-105, 107, and 108 stand rejected under 35 U.S.C. § 102(b) as anticipated by Jehan. Claims 34, 36-38, 40-43, 45-49, 51-55, and 57-62 stand rejected under 35 U.S.C. § 102(b) as anticipated by Knippscheer. In order to anticipate a pending claim under any of the various subsections of 35 U.S.C. § 102, a reference must teach every element recited in the claim. As discussed during the interview and as set forth below, the fair teachings of the asserted patents are insufficient to anticipate the pending claims, and the rejections under 35 U.S.C. § 102(e) are therefore improper.

The Jehan patent is directed particularly to “punch card” systems (*see, e.g.*, the portions of the reference cited by the Examiner: reference numeral 22; and col. 8, ll. 40-67) as described in the present application in the discussion beginning at page 2, line 10, and continuing to page 3, line 11. In accordance with the techniques employed by the Jehan system, sample material is blotted onto a punch card substrate and diffuses through the substrate; this creates a universal or omnibus sample distributed across the substrate. A pellet or plug may be punched from anywhere on the substrate, irrespective of the uniformity of the sample material’s diffusion, at a later time--accordingly, such pellets or plugs are not in any sort of predetermined spatial relationship with respect to the substrate. Such a spatial arrangement facilitating the location of a particular “node” as called out in many of the

pending claims (*e.g.*, pending independent claims 1, 77, and 94), is fundamentally lacking in punch card systems.

Even if the Examiner were inclined to read the recited “sample carrier” term in the pending claims broadly enough to encompass Jehan’s sample magazine (reference numeral 16) as asserted in paragraph 1 at page 2 of the outstanding Office Action, Applicants submit that Jehan’s sample magazine is not configured to support a plurality of sample “nodes” as described and claimed in the present application. Jehan’s samples (reference numeral 42) are not equivalent to the claimed sample “nodes,” at least for the reasons set forth above. Accordingly, the Jehan patent is deficient at least to the extent that it fails to teach or even to suggest the elements of independent claims 1, 63, 77, 94, and 102 that are specifically directed to a “sample carrier” and a “node.”

The Knippscheer patent teaches a system employing samples maintained in ampules (reference numeral 16). Contrary to the Examiner’s assertion in paragraph 2 at page 5 of the outstanding Office Action, the support bars (reference numeral 4) taught in the Knippscheer patent are not equivalent to the sample “nodes” recited in the pending claims. Specifically, these support bars do not comprise a sample support medium operative to carry a discrete sample in desiccated form as described in the present application and as recited in the pending claims. Neither can the term “node” in the pending claims be read on the ampules disclosed in Knippscheer, at least for the reasons set forth above. As with the Jehan patent, the Knippscheer patent is deficient at least to the extent that it fails to teach or even to suggest the elements of independent claims 34, 45, and 58 that are specifically directed to a “sample carrier” and a “node.”

In contrast to the fair teachings of the cited patents, each sample node described and claimed in the present application is operative to carry a “discrete” sample. In that regard, the present application does not specifically define the term “discrete” to mean anything more narrow than its ordinary usage suggests: *i.e.*, “separate” or “distinct.” The punch card system taught in the Jehan must sever or excise a bit of sample material from an otherwise unified or consolidated substrate, and does not contemplate discrete samples as described and claimed in present application. The Examiner has identified this deficiency in the Jehan patent as set forth on page 8 of the outstanding Office Action (acknowledging that Jehan teaches “a punch mechanism for acquiring samples for testing”). Interestingly, in accordance with the Examiner’s understanding, the Jehan system does not have “a sample” until *after* material has been punched from the card--this is inconsistent with the Examiner’s assertion on page 2 of

the Office Action. Accordingly, Applicants submit that a punch card, failing to carry a “discrete” sample as described and claimed in the present application, is not equivalent to a “node” as recited in the pending claims.

Applicants submit that the cited patents fail to teach or to suggest at least the foregoing structural elements recited in every independent claim (claims 1, 6, 16, 34, 45, 58, 63, 77, 94, and 102). Accordingly, the cited patents are insufficient to anticipate any of the pending independent claims, and the rejections of claims 1, 3-9, 11-22, 24-28, 34, 36-38, 40-43, 45-49, 51-55, 57-66, 70, 71, 73, 74, 77-80, 83, 87, 88, 90, 91, 94, 96-99, 101-105, 107, and 108 under 35 U.S.C. § 102(b) are therefore improper. At least for the reasons set forth above with specific reference to independent claims 1, 34, 45, 58, 63, 77, 94, and 102, their respective dependencies are also allowable. Further, these dependent claims recite additional features and combinations of elements, and Applicants submit that these claims are additionally allowable for their respective recitations as well.

The Rejections Under 35 U.S.C. § 103(a)

Claims 2, 10, 29, 33, 69, 86, 95, 100, and 106 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Jehan in view of Rosenthal. Claims 23, 67, 68, 84, and 85 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Jehan in view of Issacman. Claims 35, 39, 44, 50, and 56 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Knippscheer. Claims 72, 89, and 109 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Jehan.

Given the clear deficiencies of the primary references (*i.e.*, the Jehan and Knippscheer patents) noted above, Applicants respectfully submit that the Examiner’s observations (at pages 8-10 of the Office Action) regarding “sample node removal” using lasers, “sample node tracking” using RFID tags, buffer solutions, and sample analysis, even if true, are not especially remarkable. The Examiner has failed to address how, if at all, the secondary references supply the deficiencies of Jehan and Knippscheer set forth above. In fact, the secondary references fail to supply those deficiencies.

In particular, MPEP § 706.02(j) specifies that, in order for the Examiner to establish a *prima facie* case of obviousness, among other criteria, “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” Because the cited references fail to teach every limitation recited in the independent claims as set forth in detail above, the Examiner has failed to establish a *prima facie* case of obviousness, and the rejection under 35 U.S.C. § 103(a) is improper. In particular, every independent claim

includes at least a "sample carrier" and "node" element which is neither taught nor suggested by the cited patents, whether considered individually or in combination.

Accordingly, Applicants submit that the cited patents are insufficient to render obvious any of the pending claims, and request that the rejection of claims 2, 10, 23, 29, 33, 35, 39, 44, 50, 56, 67, 68, 69, 72, 84, 85, 86, 89, 95, 100, 106, and 109 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

Based at least upon the foregoing Remarks, Applicants respectfully submit that all the pending claims are allowable, and that the present application is currently in condition for allowance. The Examiner is encouraged to contact the undersigned at 858-509-4007 if it is believed that a discussion may advance the prosecution of this case.

Please charge any fees associated with the submission of this paper to Deposit Account Number 502212. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,
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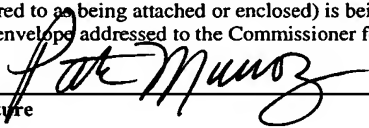
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